

Notice of Allowability

Application No.

10/510,884

Examiner

Kamran Afshar, 571-272-7796

Applicant(s)

GROMAKOV ET AL.

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 10/12/06 & 10/19/06.
2. ☒ The allowed claim(s) is/are 1-2, 4-7, 9-18 and 20-22.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some* c) ☐ None of the:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftperson's Patent Drawing Review (PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
- (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO/SB/08),
Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☒ Interview Summary (PTO-413),
Paper No./Mail Date _____
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____

DETAILED ACTION

EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Mr. William R. Evans, Reg. No.: 25858 on 10/12/06 & 10/19/06.

The application has been amended as follows:

In The Claim:

6. (currently amended) The method according to claim 1, characterized in that the a height of location of a mobile station above the surface of the earth, in respect to which corresponding cells or microcells are dedicated, is selected as one of the working parameters, and a vertical "handover" is provided for.

13. (currently amended) The method according to claim ~~3~~ 1, characterized in that the current data on the location of the mobile station are used to control parameters of adaptive multibeam antenna systems of base stations communicating with the mobile station, including parameters for directing a directional characteristic of antenna systems toward the mobile station.

15. (currently amended) The method according to claim ~~3~~ 1, characterized in that microcells within a cell that have working communication parameters different from working communication parameters of the instant cell, in particular other types of radio interfaces, protocols, communication standards, are dedicated, wherein coordinates of border and working parameters of these microcells, recorded in the control center of the cellular communications system, are transmitted through corresponding base stations to mobile stations located in the microcells.

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16. (currently amended) The method according to claim 2, characterized in that ~~the~~ a height of location of a mobile station above the surface of the earth, in respect to which corresponding cells or microcells are dedicated, is selected as one of the working parameters, and a vertical "handover" is provided for.

17. (currently amended) The method according to claim ~~3~~ 1, characterized in that ~~the~~ a height of location of a mobile station above the surface of the earth, in respect to which corresponding cells or microcells are dedicated, is selected as one of the working parameters, and a vertical "handover" is provided for.

18. (currently amended) The method according to claim 2, characterized in that ~~the~~ a power level of transmitters of mobile and base stations are adjusted depending on their distance from one another on the basis of location data of the mobile and base station, and also of digital geographical maps, used in the control center of the cellular communications system:

22. (currently amended) The method according to claim ~~3~~ 1, characterized in that ~~the~~ a power level of transmitters of mobile and base stations are adjusted depending on their distance from one another on the basis of location data of the mobile and base station, and also of digital geographical maps, used in the control center of the cellular communications system.

Allowable Subject Matter

2. In view of the amended claims filed one 10/10/22006, Claims 1-2, 4-7, 9-18 and 20-22 are allowed.

The following is an examiner's statement of reasons for allowance: 1-2, 4-7, 9-18 and 20-22.

With respect to claim 1, the prior art of record fails to disclose singly or in combination or render obvious that a file in electronic form with fragments of a digital geographical map of the vicinity is preliminary introduced into a control center of a cellular communications system, the map comprising

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coordinates and characteristics of base stations arranged in cells and geographical coordinates of the borders of the cells, the file of a fragment of the digital geographical map is transmitted from the control center of the cellular communications systems through a corresponding base station to a mobile station, the map comprising coordinates and characteristics of the base station of that cell where this mobile station is, coordinates and characteristics of the base station of neighboring cells with coordinates of their borders; and then, in the mobile station, a comparison of current data of its location and the coordinates of cell borders is carried out at least one of when there is a transition of the mobile station to another cell – handover - or when there is a transition from one cellular communications network to another - roaming - data on completion of the handover or conduction of the roaming and changes of the working parameters of communications channels and produced in the mobile station and transmitted to a corresponding control center of the cellular communications system, characterized in that the dimension of the fragment of the comparison of current data of its location and the coordinates of transmission of data on its location by that mobile station to the control center of the cellular communications system are changed depending on the speed of movement of the mobile station.

With respect to claim 20, the prior art of record fails to disclose singly or in combination or render obvious that introducing into a control center of a cellular communications system an electronic file of a digital geographical map of geographical coordinates of borders of cells defined by base stations of the cellular communications system having coordinates and characteristics, as determined from the map, the coordinates and characteristics of at least one of the base stations neighboring the one of the base stations and geographical coordinates of at least the one of the borders of the cell thereof with the cell of the one of the base stations; and then, in the mobile station, comparing another determination of a current location of the mobile station at least with the geographical coordinates of the one of the borders of the cell of the neighboring base station to determine a transition of the mobile station across the border of the neighboring base station for use from the mobile station of the coordinates and characteristics of the neighboring base station, characterized in that the dimension of the fragment of the geographical map transmitted to the mobile station and the periodicity of transmission of data on its location by that mobile

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station to the control center of the cellular communications system are changed depending on the speed of movement of the mobile station, and characterized in that during the transmission of the file of the fragment of the digital geographical map from the control center of the cellular communications system through a base station to a corresponding mobile station, adaptation of the dimensions and configuration of the cells and also conditions providing for "handover" to a load created by mobile stations in a cell are carried out.

With respect to claim 21, the prior art of record fails to disclose singly or in combination or render obvious that fragments are transmitted to corresponding base stations for recording into controllers of these base stations, and in process of radio communications each base station at first entering its cell of some mobile station, which establishes a communication with this base station, transmits to this mobile station a corresponding fragment of the digital geographic map for recording in its controller, the mobile station periodically compares data of its location, being received with help of its receiver of the satellite location determination system, with the stored fragment of the digital geographic map and when crossing the border of the cell of its location the mobile station produces data for "handover" or "roaming" and independently transmits to the operating frequency, being contained in the above fragment of the digital geographic map, code and communications parameters of the base station of the new cell into which it transmits thereby realizing "handover", and when transiting to other cellular communications network realizing "roaming", after that the mobile station transmits to a corresponding control centre of the cellular communications system data on completion of the "handover" or "roaming" and on change of operating parameters of communications channels, characterized in that during the transmission of the file of the fragment of the digital geographical map from the control center of the cellular communications system through a base station to a corresponding mobile station, adaptation of the dimensions and configuration of the cells and also conditions providing for "handover" to a load created by mobile stations in a cell are carried out.

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Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."


Conclusion

Any inquiry concerning this communication or earlier communication from the examiner should be directed to Kamran Afshar whose telephone number is (571) 272-7796. The examiner can be reached on Monday-Friday.

If attempts to reach the examiner by the telephone are unsuccessful, the examiner's supervisor, Feild, Joseph can be reached @ (571) 272-4090. The fax number for the organization where this application or proceeding is assigned is **571-273-8300** for all communications.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Kamran Afshar


JOSEPH FEILD
SUPERVISORY PATENT EXAMINER